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10/549,766

05/08/2006

Johan Pieter de Wet

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7590

04/24/2008

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EXAMINER

NGUYEN, TAM M

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

04/24/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-----------------------------------|--|
| Office Action Summary | Application No. 10/549,766 | Applicant(s) WET ET AL. | |
| | Examiner TAM M. NGUYEN | Art Unit 1797 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/20/06; 12/13/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 20-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20 provides for the use of solvent, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any **active, positive steps** delimiting how this use is actually practiced.

Claim 20 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, **results** in an improper definition of a process, i.e., **results** in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim 30 recites the limitation "the aqueous phase of a bottoms product" in line 2 the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 20-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Becker et al. (DE 199 11910 A1) alone or in view of De Wet et al. (WO 02/31085 A2).

Since the Becker et al (DE 19911910 A1) is equivalent to the Republic of South Africa application No. 2000129 which is in English, for convenience the examiner will use the application No. 20001295 disclose as the disclose of the DE 19911910 A1 patent.

The Becker reference discloses a process for removing oxygenates from a hydrocarbon stream having at least 6 carbon atoms (e.g., 1-octenes) by contacting the hydrocarbon stream

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with a solvent comprising water and alcohol (e.g., methanol) in a liquid-liquid extracting distillation column to produce an extracting stream which is sent to a solvent recovery column. A hydrocarbon product stream and a solvent stream are recovered from the solvent recovery column. The solvent stream is then recycled back to the extraction distillation column. The Becker reference also discloses that the hydrocarbon stream is from a Fischer-Tropsch process. A raffinate from the extraction column is sent to a column to produce a bottom stream and overhead stream. It is noted that Becker does not specifically disclose that the hydrocarbon stream comprises paraffins. However, the hydrocarbon stream of the Becker reference is from a Fischer-Tropsch process. It would be expected that the hydrocarbon stream of the Becker reference comprises at least a small amount of paraffins. (See entire patent)

The Becker reference does not specifically teach the hydrocarbon stream containing a range of hydrocarbons in the C_8 to C_{16} range or C_{10} to C_{13} , does not specifically disclose the amount of oxygenates, olefins and paraffins in the hydrocarbon stream, does not disclose that the methanol and water are added separately, and does not teach that a hydrocarbon feed stream comprising less than 0.02% by weight oxygenates is produced as the bottom product from the raffinate stripper column.

The De Wet reference teaches a process for separating oxygenates from a hydrocarbon stream by utilizing a solvent extracting system. The De Wet reference teaches a hydrocarbon stream of a C_{10} - C_{13} cut containing olefins, paraffins and oxygenates is known. The reference also teaches that the solvent comprises alcohol and water wherein water is less than 18% of the solvent.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of the Becker reference by utilizing a hydrocarbon stream comprising any amount of oxygenate, olefins, and paraffins including the claimed amount with the expectation that a hydrocarbon feed comprising the claimed amount of oxygenate, olefins and paraffins would be successfully treated in the process of the Becker reference.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of the Becker reference by adding methanol and water separately into the extraction column because in both cases (either methanol and water added separately or methanol and water added together as a mixture) both methanol and water are intimately contacted with the hydrocarbon stream. It would be expected that the results would be the same or similar when adding methanol and water in the column separately or in the column as a mixture.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Becker by operating the raffinate stripper column to product a bottom hydrocarbon comprising the claimed amount of oxygenate because it within the level of one of skill in the art to separate the raffinate stream into fractions having different compositions including a fraction having the claimed composition.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of the Becker reference by utilizing a hydrocarbon stream containing hydrocarbon within the claimed ranges because on of skill in the art would utilize any hydrocarbon stream having at least C₆ including a hydrocarbon stream

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having carbon atoms within the claimed ranges with the expectation that any hydrocarbon stream having carbon atoms greater than six including the claimed feed would be successfully treated in the process of the Becker reference.

Alternatively, one of skill in the art would use any hydrocarbon cut including hydrocarbon that is known and is taught by the De Wet reference.

Becker does not specifically teach the amount of water content in the solvent.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of the Becker reference by utilizing a solvent content the amount of water as suggested by the De Wet reference because such amount is effective in the extracting process.

Since the modified process of the Becker reference is essentially the claimed as the claimed process, it would be expected that the output streams of the Becker process would have composition similar to the composition as claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAM M. NGUYEN whose telephone number is (571)272-1452. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tam M. Nguyen
Primary Examiner
Art Unit 1797

TN
/Tam M. Nguyen/
Primary Examiner, Art Unit 1797